Fire Program Analysis – Preparedness Module
Data Requirements for Historic Analysis

Issue: There is a need to provide FPA-PM with a fire event scenario based on historic fire occurrence and historic weather data. Fire planning units (FPU) preparing to perform the Historic Analysis have repeatedly asked the question, "How many years of historic data are required by the FPA system?"

Background and Assumptions: FPA is being developed to ensure that it is scientifically based and peer reviewable. The FPA development team enlisted the opinions of researchers several times during the development of the historic analysis portion of FPA**.** One of the elements in need of peer review was the quantity of data needed to perform statistically sound analysis. The simple answer from the research community is that more data is better but the practical consideration is that there is more effort and cost associated with providing the system more data. To be efficient, FPUs only want to provide the minimum input data required for valid analysis.

The four FPA-PM prototypes were asked to gather, correct, and use 22 years of data for their analyses. This relatively long period of data would allow for statistical analysis of input data over various lengths of time, i.e. 20 years, 10 years, and 5 years. Statistical analysis of the historic analysis data will continue, but will not likely be available when the FPA-PM system becomes available to FPUs.

Recommendation: The FPA development team and the FPA Implementation and Coordination Group recommend that the most recent ten years of fire occurrence and weather data be used when performing analysis. For analysis taking place in 2005 the most recent ten years would be calendar years 1994 to 2003. This would be the input data for a 2007 budget submission. This will provide fire planning units the consistent guidance they have requested. To meet the "most recent ten years expectation" the 2008 submission would be based on fire occurrence from 1995 to 2004. In other words this will be a moving, most recent 10 year time period for fire occurrence data. A fire occurrence year is considered to be from January 1 through December 31.

This is interim guidance until peer reviewed statistical analysis of our overall historic analysis process can be completed.

If ten years of data are not available for each of the FPU Participants, the most recent consecutive data years that are available for all of the FPU Participants will be used. The FPA development team recognizes that this could lead to FPUs inputting differing lengths of historic analysis data. In the interim this is the best guidance we can provide.

Additional: The data sources for fire occurrence are National Fire and Aviation Management Web Applications (FAMWEB)/National Interagency Fire Management Integrated Database (NIFMID), or SACS, etc. All of this data needs to be checked to ensure that location, cause, and time of discovery data are accurate, and that the records do not duplicate fires reported by another agency.

Prepared by: Steve Harbert & Howard Roose, FPA Core Team, 208-947-3780
See the FPA web site http://fpa.nifc.gov
3/14/2005

The sources for weather data could be FAMWEB/WIMS, RAWS, manual stations, or from GRID weather. Weather data will be imported into PCHA using an .fwx file format. Desert Research Institute (DRI) is currently under contract to establish a GRID weather source utilizing "Regional Re-analysis".

Desert Research Institute is providing a Quality Control and Quality Assured (QCQA) .fwx file for each weather station identified per FPU as being representative. As of March 8, 2005 DRI has produced .fwx files for all of the RAWS stations with a "matching record between NIFMID and Western Regional Climate Center (WRCC). In March of 2005 DRI will start an effort to apply their "validation routine" to the .fwx data they provided as a result of the QCQA work they have completed.

Upon completion of the QCQA process, with the validation routine applied, each FPUs weather stations will have .fwx files or weather data sets developed with known standards. These data sets should become the standard source for weather data input for FPA.